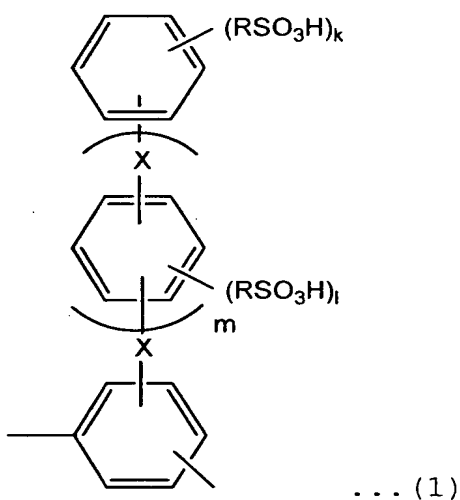


CLAIMS

1. A polymer electrolyte comprising at least one polymer selected from polyether, polyketone, polyetherketone, polysulfone, polyethersulfone, polyimide, polyetherimide, polybenzimidazole, polybenzothiazole, polybenzoxazole, polyphenylenesulfide, polyhydantoin, polyquinoxaline, polyquinoline, polyoxadiazole and polyparabanic acid,

10 said polymer comprising a repeating structural unit having one or both of an aromatic ring and a heterocyclic ring and a repeating structural unit represented by the formula (1):



wherein X denotes a single bond, an electron-withdrawing group or an electron-donating group; R denotes a single bond, $-(CH_2)_q-$ or $-(CF_2)_q-$ where q ranges from 1 to 10; m denotes an integer of 0 to 10 and when m is from 1 to 10 Xs may be the same as or different from one another; k denotes an integer of 0 to

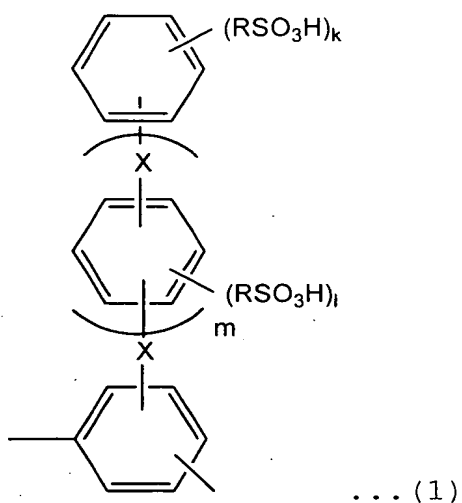
5; l denotes an integer of 0 to 4; and $k + l \geq 1$.

2. The polymer electrolyte according to claim 1,
containing the sulfonic acid group in an amount of 0.3 to 5.0
5 meq/g.

3. A proton conductive membrane comprising the
polymer electrolyte as claimed in claim 1 or 2.

10 4. A membrane-electrode assembly in which an
electrolyte membrane is sandwiched between a pair of
electrodes, said electrolyte membrane comprising at least one
polymer selected from polyether, polyketone, polyetherketone,
polysulfone, polyethersulfone, polyimide, polyetherimide,
15 polybenzimidazole, polybenzothiazole, polybenzoxazole,
polyphenylenesulfide, polyhydantoin, polyquinoxaline,
polyquinoline, polyoxadiazole and polyparabanic acid,

said polymer comprising a repeating structural unit
having one or both of an aromatic ring and a heterocyclic ring
20 and a repeating structural unit represented by the formula (1):



wherein X denotes a single bond, an electron-withdrawing group or an electron-donating group; R denotes a single bond, $-(CH_2)_q-$ or $-(CF_2)_q-$ where q ranges from 1 to 10; m denotes an integer of 0 to 10 and when m is from 1 to 10 Xs may be the same as or different from one another; k denotes an integer of 0 to 5; l denotes an integer of 0 to 4; and $k + l \geq 1$.